

ACCESSION NR: AP3000127

eliminates the antioxidative properties of these materials. "The authors express their gratitude to M. M. Emanuel¹ for his continued interest in this work." Orig. art. has: 1 table, 1 graph, and 1 equation.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 29Jun62

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OTHER: 010

Card 2/2

S/020/63/148/005/017/029
B117/B186

AUTHORS: Bystrov, V. F., Dymayev, K. M., Lezina, V. P., Nikiforov, G. A.

TITLE: Study of the hydrogen bond by the n.m.r. method. Effect of steric hindrances on the hydrogen bond in di-orthoalkylphenols

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 5, 1963, 1077 - 1080

TEXT: The steric screening effect of the OH group on the hydrogen bond of some di-orthoalkylphenols was studied by protonmagnetic resonance with the aid of the ЯМР-УС-2 (YMR-US-2) spectrometer at a frequency of 20.529 Mc at $20 \pm 2^\circ\text{C}$. The chemical shift of the protonmagnetic resonance signals τ was measured in the spectra of 2,6-xylene-, 2,6-diisopropylphenol and ionone(2,6-di-tert-butyl-4-methylphenol) as a function of their concentration in dry, alcohol-free CCl_4 , ether, acetone, and triethylamine. The measurements RMS error: ± 0.02 showed that the change in the chemical shift of τ due to the OH group may be attributed entirely to the effect of the intermolecular hydrogen bond. When the substances investigated are diluted in ether, acetone and triethylamine, the τ are shifted towards a comparatively weak field, while, when they are diluted in CCl_4 they are shifted

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Study of the hydrogen bond by...

towards a stronger field. This shows that in the latter case the hydrogen bond between the phenol molecules is weaker. The importance of steric screening (volume of ortho-substituents) for cyclic association, in which mainly tetramers and only small amounts of dimers are formed, was studied in some alkylphenols dissolved in CCl_4 . When the number of ortho-substituents is increased, the band of the bound hydroxyl is shifted to higher frequencies and the shift from the H bond $\Delta\tau$ becomes smaller, probably due to its effective elongation. Owing to the weakening of the hydrogen bond the inhibiting activity decreases in the following order: 2,6-dimethyl-, 2,6-diisopropyl and 2,6-di-tert-butylphenyl, and a further growth of the $\text{C}_6\text{-C}_8$ radicals is prevented. In di-ortho-alkylphenols, dissolved in CCl_4 at low concentrations the chemical shift of τ on a horizontal section is dependent on the concentration. When the number of ortho-substituents is increased the "saturation" of this dependence takes place in the region of higher concentrations. In 2,6-di-tert-butylphenol and ionone, the shift of the hydroxyl is independent of the concentration. A comparison of the shifts of the hydroxyl signal $\Delta\tau$ on transition from the pure substance to the zeroth phenol concentration showed that the electron cloud of the O-H

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bond is considerably influenced by the substituents. When the alkyl group in o-position is introduced, the effect of the electric dipole field of the C-H bond can be assumed as one of the reasons for the change in the shift of the OH signal. This was confirmed by introducing a methyl group instead of hydrogen. The effect of substituents on the chemical shift of the OH group of phenols is at present being studied in detail. There are 4 figures and 1 table.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: October 8, 1962, by V. N. Kondrat'yev, Academician

SUBMITTED: September 28, 1962

Card 3/3

NIKIFOROV, G.A.; DYUMAYEV, K.M.

Inhibitors of free radical reactions. Report No.5: Synthesis
of 3,5-dialkyl-4-hydroxyphenylalanines. Izv. AN SSSR. Ser.
khim. no.6:1068-1073 Je '64.

(MIRA 17:11)

1. Institut khimicheskoy fiziki AN SSSR.

NIKIFOROV, G.A.; VOLOD'KIN, A.A.; DYUMAYEV, K.M.

Inhibitors of free radical reactions. Report No.6: Autoalkylation
in the 4-hydroxybenzylamine series. Izv. AN SSSR. Ser. khim. no.9:1661-
1666 S '64. (MIRA 17:10)

1. Institut khimicheskoy fiziki AN SSSR.

SMIRNOV, L.D.; LEZINA, V.P.; BYSTROV, V.F.; DYUMAYEV, K.M.

Comparative reactivity of ortho- and para-positions of 3-hydroxy-pyridine in aminomethylation reaction. Izv. AN SSSR Ser. khim. no.1 198-200 '65. (MIRA 18:2)

1. Institut khimicheskoy fiziki AN SSSR.

SMIRNOV, L.D.; LEZINA, V.P.; BYSTROV, V.F.; DUBAYEV, K.M.

Sterically hindered 3-hydroxypyridines. Paper No.5: Proton magnetic resonance method and chemical methods of studying the course of reactions of amino- and hydroxymethylation in the 2-alkyl-3-hydroxypyridine series. Izv. AN SSSR, Ser. khim. no.10:1836-1845 '65.

(MIRA 18:10)

1. Institut khimicheskoy fiziki AN SSSR.

LEZINA, V.P.; STASYEV, V.F.; SMIRNOV, I.D.; ~~DIKUNYEV, K.M.~~

Electronic structure of 3-hydroxypyridines. Part 1: Proton magnetic resonance spectra and calculation by the methods of molecular orbitals and linear combination of atomic orbitals. Teoret. i eksper. khim. 1 no.3:281-289. Moscow 1965.

Electronic structure of 3-hydroxypyridines. Part 2: Chemical reactivity of 3-hydroxypyridines. Ibid.:290-294 (MIRA 18:9)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.

21 4)

AUTHORS: Galil-Ogly, F. A., Nikitina, T. S., Dyumayeva, T. N.,
Novikov, A. S., Kuz'minskiy, A. S.

SOV/89-6-5-6/33

TITLE: On the Radiation Vulcanization of Fluorine Copolymers
(O radiatsionnoy vulkanizatsii ftorsopolimerov)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 5, pp 540-545 (USSR)

ABSTRACT: If rubber-like fluorine copolymers are irradiated, rubber having unsatisfactory physical and mechanical properties is obtained. If various additions are added to these substances before irradiation, rubber having valuable technical properties may be obtained. The rubber-like fluorine copolymer "Kel'-F" is experimentally used as elastomer. Irradiation was carried out with Co^{60} -disks (thickness 0.3 to 1.0 mm) with an activity of 1400 and 21000 gramequivalent Rg. The integral absorbed energy corresponded to 3 to 80.10⁶ r. The structural change in the irradiated material was determined from the changed solubility, from the swelling limit in acetone, from the modulus E_{∞} , and from other physico-mechanical parameters. As additions the following substances are used: Channel black, white soot, furnace carbon black, thermal carbon

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On the Radiation Vulcanization of Fluorine Copolymers

black, and zinc oxide. The experimental results are tabulated and partly shown in form of graphs. The following is worth mentioning in connection with the curves: Dependence of tearing strength, the relative elongation, the modulus E_{∞} , and the swelling limit on the radiation dose; the influence exercised by air and vacuum on swelling and the modulus E_{∞} in the case of various radiation doses; the influence exercised by the addition of carbon black on spatial net formation as a result of irradiation. Dependence of the strength of the rubber on the quantity of carbon black added (irradiation dose $20 \cdot 10^6$ r). The following general conclusions may be drawn from the experiments: The surface activity of the additional substances exercises a decisive influence on the properties of the rubbers. The rubber which contains channel black as an addition possesses the best technical properties after irradiation. It is, above all, more resistant to heat-aging, solubility, and static deformation. The fluorine copolymers of the "Kel'-F"-type tend more towards cross-linking than polytetrafluoroethylene and polytrifluoroethylene chloride. Cross-linking is promoted by the addition of oxygen. There are 9 figures, 1 table, and 10 references, 2 of which are Soviet.

Card 2/3

DYUMAYEVA, T. N.

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RUSSIA
5/19/60/002/004/002/070
B004/8096

AUTHORS:

Kovalev, A. S., Karpov, T. L., Gail-Coly, P. A.,
Sidorovskaya, L. A., Dyumayeva, T. N.

TITLE:

Investigation of the Effect of Ionizing Radiation on the
Chemical Structure of Rubber-Like Fluorine Copolymers

PERIODICAL:

Vysokomolokulyarnyye soedineniya, 1960, Vol. 2, No. 4,
pp. 435-481

TEXT: The authors proceed from published data (Refs. 1-5), according to which, unlike that in the case with polytetrafluoroethylene and polytrifluoromethylene, in the case of rubber-like copolymers, no destruction but structure formation is caused by ionizing radiation (radiation vulcanization). The authors therefore investigated this process on the copolymers of tetrafluoroethylene with 1,1,1-trifluoro-2,2,2-trifluoroethane (TFE-CF₃) and tetrafluoroethylene with 1,1,1-trifluoro-2,2,2-trifluoroethane (TFE-CF₃). As a radiation source, radium was used. The activity of 1,400 and 21,000 gram-equivalent of radium was used. The quantity of irradiation was 0.34-108 r/h; the total dose was 3 - 82.10⁵ r. The copolymer films were irradiated in air.

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or vacuum (10⁻⁴ torr). The chemical changes occurring as a result of irradiation were studied by infrared spectroscopy. By means of an MK-14 (IR-14) spectrometer, the spectra of the copolymers in the range 1450 - 3500 cm⁻¹ were taken on 4-10 μ thick films, and within the range 1450 - 3500 cm⁻¹ on 140 - 150 μ thick films. Fig. 1 shows the infrared spectrum of the initial copolymer, which is interpreted by the authors. Irradiation in air leads to considerable changes (Figs. 2-3). The intensity of the absorption bands of oxygen-containing groups and of the -CF₂-CF₂ group increases considerably, while the intensity of the C-H, C-F, C-Cl bond stretching vibrations decreases. Herefrom it is concluded that gaseous compounds containing H, F, or Cl are liberated. Positive copolymer irradiation in vacuum shows a different spectrum (Fig. 4). At 1450 cm⁻¹ (10⁻⁴ torr) the absorption bands 1640 cm⁻¹ (C=O), 1740 cm⁻¹ (C=O), 1780 cm⁻¹ (C=O), 1790 cm⁻¹ (C=O), 1800 cm⁻¹ (C=O), 1810 cm⁻¹ (C=O), 1820 cm⁻¹ (C=O), 1830 cm⁻¹ (C=O), 1840 cm⁻¹ (C=O), 1850 cm⁻¹ (C=O), 1860 cm⁻¹ (C=O), 1870 cm⁻¹ (C=O), 1880 cm⁻¹ (C=O), 1890 cm⁻¹ (C=O), 1900 cm⁻¹ (C=O), 1910 cm⁻¹ (C=O), 1920 cm⁻¹ (C=O), 1930 cm⁻¹ (C=O), 1940 cm⁻¹ (C=O), 1950 cm⁻¹ (C=O), 1960 cm⁻¹ (C=O), 1970 cm⁻¹ (C=O), 1980 cm⁻¹ (C=O), 1990 cm⁻¹ (C=O), 2000 cm⁻¹ (C=O), 2010 cm⁻¹ (C=O), 2020 cm⁻¹ (C=O), 2030 cm⁻¹ (C=O), 2040 cm⁻¹ (C=O), 2050 cm⁻¹ (C=O), 2060 cm⁻¹ (C=O), 2070 cm⁻¹ (C=O), 2080 cm⁻¹ (C=O), 2090 cm⁻¹ (C=O), 2100 cm⁻¹ (C=O), 2110 cm⁻¹ (C=O), 2120 cm⁻¹ (C=O), 2130 cm⁻¹ (C=O), 2140 cm⁻¹ (C=O), 2150 cm⁻¹ (C=O), 2160 cm⁻¹ (C=O), 2170 cm⁻¹ (C=O), 2180 cm⁻¹ (C=O), 2190 cm⁻¹ (C=O), 2200 cm⁻¹ (C=O), 2210 cm⁻¹ (C=O), 2220 cm⁻¹ (C=O), 2230 cm⁻¹ (C=O), 2240 cm⁻¹ (C=O), 2250 cm⁻¹ (C=O), 2260 cm⁻¹ (C=O), 2270 cm⁻¹ (C=O), 2280 cm⁻¹ (C=O), 2290 cm⁻¹ (C=O), 2300 cm⁻¹ (C=O), 2310 cm⁻¹ (C=O), 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DYU MAYEVA, I. N.

66113

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30/7/6055

21.6100
15.9206

2101

AUTHORS:

Revikov, A. S.; Karpov, V. L.; Gali-Ogly, P. A.;
Korshakov, A. A.; Dymayev, S. E.

TITLE:
The Effect of Metal Oxides on Structural Changes in
Irradiated Rubber Copolymers Caused by Ionizing Radiation
and High Temperatures

PERIODICAL:
Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12,
pp. 1761-1767

TEST: The authors studied the effect of metal oxides (CaO, MgO) on the
chemical changes in fluorinated rubber copolymers under the influence of
ionizing radiation, applying a ^{60}Co source with activity 21,000 Gram-
equivalents and intensity 0.54, 106 r/h. The chemical changes in the fluoro-
inated polymers were investigated by infrared spectroscopy in the
4,000 - 1,000 cm^{-1} region on the MKS-14 (KX-14) spectrometer. The
mechanical properties of irradiated fluorinated polymers with and without
a metal oxide content are given in a table. The addition of small

Card 1/3

quantities of calcium oxide was found to increase polymer strength. The
change in strength after irradiation of polymers containing varying
amounts of calcium oxide is shown graphically in Fig. 1. The addition
of methyl-ethyl ketone solutions of the polymers was made after 15-
radiation. The infrared spectra of the irradiated polymers (Fig. 2-12
(X-12) before and after irradiation with and without calcium oxide, are
shown in Figs. 5, 6, and 7. A considerable number of conjugate double bonds
of the type $-\text{CH}=\text{CH}-$ and CH and CH_2 groups were found to form in the
presence of metal oxides. Metal oxides prevent the formation of volatile
compounds during irradiation. They also react with these compounds.
Calcium and magnesium bind volatile compounds which form on heating
fluorinated polymers to 200°C under pressure. The infrared spectra of
irradiated polymers before and after heating under pressure to 200°C,
with and without addition of calcium oxide are given in Fig. 8. In the
irradiation of fluorinated polymers, the metal oxides act as acceptors
for hydrogen-fluoride and hydrogen-chloride compounds and for fluorine,
chlorine, and hydrogen. There are 6 figures, 1 table, and 11 references.

Card 2/3

5 Soviet, 3 US, and 3 British.

ASSOCIATION: Nauchno-Issledovatel'skiy Institut Radioaktivnykh Veshchestv
(Scientific Research Institute of the Rubber Industry).
Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12, pp. 1761-1767
(Physicochemical Institute Leningrad L. Ya. Karpov)

DATE: May 11, 1960

Card 3/3

DYUMAYEVA, T. N.

USSR

DOCADKIN, B. A., and TAPASOVA, Z. N., Moscow
Institute of Fine Chemical Technology named
M. V. Lomonosov [1961 position]- "Influence
of vulcanisation structures on physical and
mechanical properties of vulcanisates"
(Session II)

13

KUEPINSKIY, A. S., LYUTCHANSKAYA, L. I.,
FEDOTINSKIY, L. S., Scientific Research Institute
of Rubber Industry, Moscow [1960 locations]-
"Influence of mechanical stresses on the ageing
of vulcanized rubbers" (Session VIII)

NOVINKO, A. S., GILINSKAYA, N. S., DYUMAYEVA, T. N.,
GRIPACHEVA, A. V., HUDEL'MAN, Z. N., and
GALIL-OGLY, F. A., Scientific Research Institute
of Rubber Industry, Moscow [1961 locations]-
"Investigation of amine vulcanisation of
SKF-26 fluoroco-polymer" (Session II)

RSZNIKOVSKIY, M. M., and BROESKIY, G. I.,
Scientific Research Institute of Tire Industry,
Moscow - "Special features of the mechanism of
abrasion of high-elastic materials" (Session V)

Report to be submitted for the 4th Rubber Technology Conference,
London, England, 22-25 May 1962.

3h796

S/190/62/004/003/016/023
B124/B101

11.2214
15.9206

AUTHORS: Novikov, A. S., Galil-Ogly, F. A., Slovokhotova, N. A.,
Dzumayeva, T. N.

TITLE: Structural transformations of rubber-like fluorine-containing
copolymers on thermal treatment

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 3, 1962, 423-428

TEXT: Structural changes taking place when the copolymer "Viton A" is
molded at a pressure of 270 kg/cm² and 150 to 200°C in the absence of air
(stage I), and successively kept in a thermostat in an air current at
150 - 300°C (stage II) have been studied. For this purpose, and -4 (IKS-4)
infrared spectrometer was used. No changes in the infrared spectra were
established on heating up to 150°C in the mold, while, at 200°C, two
medium-intensity absorption bands in the region of 1760 and 1725 cm⁻¹
corresponding to the groups $R_F-\overset{\overset{CF_2}{|}}{C}-R_F$ and $R_FCF=CFR_F$ or $ROH=CF_2$, and one low-
intensity band at 1625 cm⁻¹ due to conjugated double bonds were ascertained.
Card 1/4

S/190/62/004/003/016/023
B124/B101

Structural transformations ...

When the sample was heated to 150°C in the thermostat, high-intensity band was detected in the region of 1730 cm⁻¹ which is found to correspond to oscillations of double bonds of the type R₂CF=CFR₂ or RCH=CF₂, and, in addition, two weak bands appear in the region of 1580 - 1600 cm⁻¹ due to conjugated double bond chains of various lengths. At 200°C, no changes in the infrared spectra nor a loss of solubility were found in the copolymer kept in the thermostat, while solubility was lowered on heating to 200 - 250°C. Numerous double bonds formed when CaO and MgO, respectively, were added to the pressurized mold at 150 - 200°C, with MgO being somewhat less effective; the number of double bonds formed increased with temperature. When films about 100 microns thick, with an addition of MgO, were heated, absorption bands appeared with a maximum in the region of 1450 cm⁻¹, the intensity of which increased with the time of heating. These bands are due to the appearance of the HF₂⁻ ion formed by reaction of Mg with HF liberated.

The appearance of a band in the 3300 cm⁻¹ region when samples containing CaO were heated proves the formation of hydroxyl groups. Thus, it can be concluded that, in the first phase, the C-F and C-H bonds are ruptured

Card 2/4

Structural transformations ...

S/190/62/004/003/016/023
B124/B101

which leads to the formation of HF, F₂, H₂ and double bonds both in the central part and at the ends of the chain. Up to 150°C, equilibrium is maintained due to pressure which prevents the removal of gaseous products which is, however, possible at 200°C. When the sample is heated to 150°C after CaO or MgO have been added salts of the types MeF₂ and MeHF₂ are formed. This process is intensified by heating to 200°C. Heating in the thermostat is accompanied by a loss in solubility which proves crosslinking. On heating to 150°C in the thermostat, gases formed can be removed which is reflected by spectral data and, at the same time, double bonds are formed. This reaction is catalyzed by the presence of metal oxides in the copolymer. When heating is continued up to 200°C, crosslinking occurs so rapidly that no double-bond absorption bands were found in the copolymer heated in the thermostat. Pressure application retards crosslinking due to a decreased chain mobility. There are 4 figures, 2 tables, and 8 references: 7 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: J. F. Smith, Rubber World 142, 102, 1960.

Card 3/4

Structural transformation ...

S/190/62/004/003/016/023
B124/B101

ASSOCIATION: NII rezinovoy promyshlennosti (Scientific Research Institute
of the Rubber Industry). Fiziko-khimicheskiy institut im.
L. Ya. Karpova (Physico-chemical Institute imeni L. Ya.
Karpov)

SUBMITTED: March 3, 1961

Card 4/4

1-19608-65 EMT(m)/EPF(c)/EPR/ENP(j)/T
APGC(b)/ESD(gs)/ESD(t)/RPL RM/MW/MLR Ps-Li/Pr-Li/Ps-Li BSD/AFWL/SSD/
ACCESSION NR: AT4049856

S/0000/64/000/000/0160/0165

A. S. Galil-Gulya, E. A. Slovokhodova, N. V. ...

the vulcanization of fluorocopolymers with Schiff bases
infrared spectroscopy

svoystva i modifikatsiya polimerov (chemical properties and
modification of polymers): sbornik statev, Moscow ...

copolymer, vulcanization, infrared spectroscopy, Schiff base, hexafluoropropylene ...

changes in a copolymer of hexafluoropropylene ...

structural changes was judged by ...

with an IR-6 instrument ...

... ..

L 19608-65

ACCESSION NR: AT4049856

102

ENCL: 00

OTHER: 005

L 24494-66 EWT(m)/RWP(j) IJP(c) RM

ACC NR: AP6006972

SOURCE CODE: UR/0190/66/003/002/0204/0206

AUTHORS: Kazhdan, M. V.; Dymayeva, T. N.; Berestneva, Z. Ya.; Kargin, V. A.

ORG: Physico-Chemical Institute im. D. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Investigation of the structure-formation processes occurring during rubber breakdown

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 2, 1966, 204-206

TOPIC TAGS: vulcanization, rubber, molecular structure, electron microscope/

UEMB-100 electron microscope, GYEM-5U electron microscope

ABSTRACT: Structure-formation processes occurring during the breakdown of vulcanizers of noncrystallizing sodium butadiene rubbers and of crystallizing neoprenes

AC and W were investigated by electron microscopy using instruments UEMB-100 and GYEM-5 U. It was established that new orientation processes take place in disintegrated vulcanizers, leading to supramolecular structures different from those in the original rubber. The rate of structure-formation processes in disintegrated rubbers is inversely proportional to the density of the vulcanization network. The experimental data indicate that, from the structural point of view, vulcanization is a heterogeneous process. Orig. art. has: 6 figures.

SUB CODE: 07, 11/ SUBM DATE: 05Feb65/ ORIG REF: 002

Card 1/1

UDC: 678.01:53+678.43

DUKAREVICH, Yu.V.; DYUMIN, A.N.

Effective detector of fast neutrons, weakly sensitive to
gamma rays. Prib. i tekhn. eksp. no.3:48-50 My-Je '60. (MIRA 14:10)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Neutrons) (Nuclear counters)

DUKAREVICH, ~~Yu.~~V.; DYUMIN, A.N.

Collimation of neutrons from the $T(d, n)He^4$ reaction by the
selection of α -n coincidences. Prikl. tekhn. eksp. 6 no.5:34-36
S-0 '61. (MIRA 14:10)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Neutrons)

44220

S/056/62/043/006/002/067
B163/B186

26.2245

AUTHORS: Dukarevich, Yu. V., Dyumin, A. N., Kaminker, D. M.

TITLE: Total cross sections for the interaction between fast neutrons and tin isotopes

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 6(12), 1962, 1991 - 1994

TEXT: A narrow ($\pm 40^\circ$) collimated beam of 14.2-Mev neutrons was produced in a tritium-zirconium target by the reaction $T(d, n) He^4$ using the αn coincidence method described in an earlier paper (Yu. V. Dukarevich, A. N. Dyumin. PTE 5, 34, 1961). Part of this beam passed through tin foils of known thickness composed of the seven isotopes with $A = 116 - 120, 122$, and 124; this part was counted in coincidence with the α particles from the $T(d, n) He^4$ reaction and compared with the counting rate without a tin foil. The results are shown in the figure. It is thought that the steep drop of the total cross section between $A = 188$ and 119 in the otherwise monotonically rising curve is related, in terms of the optical model, to Card 1/2

Total cross sections ...

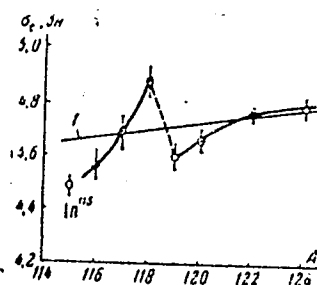
S/056/62/043/006/002/067
B163/B186

a non-monotonical variation of the one-particle potential. Since Sn^{116} and Sn^{120} are believed to have closed $s_{1/2}$ and $d_{3/2}$ subshells it is thought that low cross sections correspond to closed subshells. If this is true, the small cross section of Sn^{119} may be due to a closed $d_{3/2}$ subshell and one $s_{1/2}$ neutron in Sn^{119} . There is 1 figure. ✓

SUBMITTED: April 2, 1962

Fig.: Dependence of the total cross section on the mass number of the isotope. For comparison, the total cross section of In^{115} is given; the other points refer to tin isotopes. The curve 1 represents the theoretical dependence of the cross section on the mass number A given in the paper by Luk'yanov et al. (ZhETF, 41, 1634, 1961).

Card 2/2



45364
S/056/63/044/001/024/067
B104/B144

26.2242

AUTHORS: Dukarevich, Yu. V., Dyumin, A. N.

TITLE: Elastic small-angle scattering of fast neutrons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 1, 1963, 130-134

TEXT: The angular distribution of 14.2 Mev neutrons elastically scattered on W, Pb, Bi, Th, and U was studied to clarify the anomalous increase of the differential scattering cross section. Measurements were made in the range of $3-20^\circ$ with a resolving power of $\pm 40'$. The experimental data shown in diagrams are compared with an expression describing the diffraction scattering of neutrons on a black nucleus. In the range of $3-5^\circ$ the differential scattering cross section of Th, U, and Pb has a value exceeding the theoretical value. The deviation from the theoretical value grows with the neutron energy. This anomaly cannot be explained satisfactorily and is probably characteristic of the nuclei. There are 5 figures.

Card 1/2

Elastic small-angle scattering ...

S/056/63/044/001/024/067
B104/B144

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii
nauk SSSR (Physicotechnical Institute imeni A.F. Ioffe of
the Academy of Sciences USSR)

SUBMITTED: June 9, 1962

Card 2/2

BRAIL'CHUK, P.; DYUMIN, I.; PODSHCHEKOLDIN, M.; ISAYEV, V.

Improving technological processes in repairing the ZIL engines.
Avt. transp. 37 no.2:26-29 F '59. (MIRA 13:1)
(Motortruck--Engines--Maintenance and repair)

DYUMIN, I., inzh.

Tolerances for skews of axles in a crankgear. Avt.transp. 38 no.10:
31-33 0 '60. (MIRA 13:10)
(Crank and crankshafts) (Tolerance (Engineering))

DYUMIN, I., inzh.

Crankgear deformat ons and the quality of engine repairs. Avt.
transp. 39 no.5:34-36 My '61. (MIRA 14:5)
(Motor vehicles--Engines)

DYUMIN, I., kand.tekhn.nauk; PODSHCHEKOLDIN, M., kand.tekhn.nauk

Surface quality of repaired articles. Avt.transp. 42 no. 4:30-32
Ap '64. (MIRA 17:5)

DYUMIN, I., kand. tekhn. nauk; PREYSMAN, V., inzh.

Repairing crankshafts of the ZIL-130 engine. Avt. transp. 43
no.4:28-30 Ap '65. (MIRA 18:5)

DYUMIN, I. Ye.

Cand Tech Sci - (diss) "Study of the effect of errors of assembly of crank drive mechanism on the quality of engine repair." Moscow, 1961. 19 pp with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Motor Vehicle and Road Inst); 150 copies; free; (KL, 6-61 sup, 217)

KARUYEVITSKIY, Valeriy Aleksandrovich, kand. tekhn. nauk; DYUMIN,
I.Ye., kand. tekhn. nauk, retsenzent; NOVIK, A.M., red.
izd-va; MATUSEVICH, S.M., tekhn. red.

[Centralized reconditioning of motor-vehicle parts] Tsentra-
lizovannoe vosstanovlenie avtomobil'nykh detalei; voprosy or-
ganizatsii i tekhnologii. Kiev, Gos.izd-vo tekhn. lit-ry
USSR, 1963. 169 p. (MIRA 16:12)
(Motor vehicles--Maintenance and repair)

ACC NR: AF7003003

SOURCE CODE: UR/0056/66/051/006/1665/1668

AUTHOR: Yesel'son, B. N.; Dyumin, M. Ye.; Rudavskiy, E. Ya.; Serbin, I. A.

ORG: Physicotechnical Institute of Low Temperatures, Academy of Sciences, Ukrainian SSR (Fiziko-tekhnicheskii institut nizkikh temperatur Akademii nauk Ukrainiskoy SSR)

TITLE: Velocity of first sound in He^3 - He^4 solutions

SOURCE: Zh eksper i teor fiz, v. 51, no. 6, 1966, 1665-1668

TOPIC TAGS: liquid helium, sound propagation, acoustic speed, temperature dependence, superfluidity

ABSTRACT: The authors describe measurements of the velocity of first sound in solutions of helium isotopes with He^3 content up to 20% in the temperature range 1.6 - 4.0K. The purpose of the investigation was to determine various properties of the solutions, especially the velocity of fourth sound. A pulsed ultrasonic method was used for the velocity determination. The carrier frequency was 1 MHz, the pulse duration was 30 μsec , and the pulse repetition frequency was 200 Hz. The results show that at constant temperature the sound velocity varies linearly with the He^3 concentration. An explanation is proposed for this linearity. The temperature dependence of the velocity of first sound shows clearly the singularities corresponding to the transition of the solution into the superfluid state, and the values obtained for the λ -point temperatures from these temperature dependences agrees well with the published data. Orig. art. has: 2 figures, 5 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 18Jul66/ ORIG REF: 002/ OTH REF: 005

Card 1/1

Dyumin, O.V.

VOLOSHIN, M.Ya., student; DYUMIN, O.V., student; OSTAPCHUK, N.A., student

Effect of a vagosympathetic block on compensation mechanisms in loss
of blood. Vrach.delo no.6:655 Je '57. (MLR 10:8)

1. Kafedra normal'noy fiziologii (zav. - prof. F.N.Serkov) Odesskogo
meditsinskogo instituta
(HEMORRHAGE) (LOCAL ANESTHESIA)

1ST AND 2ND STORES										3RD AND 4TH STORES									
PROCESSES AND PROPERTIES INDEX																			
<p>ca</p> <p>Preparation of lead chloride from "lead cake." T. Ulyukov, N. Dyugina and G. Antimova. <i>Bull. Akad. Nauk SSSR, Tekhn. Khim.</i> 1940, No. 10, 216. In the production of $ZnSO_4$, there is obtained a so-called "lead cake," contg. up to 35% Pb as $PbSO_4$. Leaching the cake with $NaCl-CaCl_2$ soln. at 95-100° forms solns. contg. 80-110 g. Pb per l. A single extrn. with hot, 20% $NaCl$ soln. can ext. up to 93.8% Pb. On cooling, the solns. ppt. $PbCl_2$, admixed with some $NaCl$; thus 78-82% Pb is recovered. A water wash gives $PbCl_2$ 98.7% pure. Mother liquors can be re-used for extrn. Before Pb extrn., the crude cake should be washed with water, to reduce the Zn content.</p> <p>G. M. Kowlopoff</p>																			
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1ST AND 2ND STORES</p>										<p>3RD AND 4TH STORES</p>									

LYUBIMOV, N.N., prof., doktor ekon. nauk; PLETNEV, E.P., doktor ekon. nauk; SERGEYEV, S.D., dots., kand. ekon. nauk; MEN'SHIKOV, S.M., doktor ekon. nauk; BUZYKIN, Yu.I., kand.ekon.nauk; DYUMULEN, I.I., dots., kand.ekon.nauk; IKONNIKOV, I.S., kand.ekon.nauk; KUZ'MIN, I.A., dots., kand.ekon.nauk; NESTEROV, M.V.; POPOV, A.N., dots., kand.ekon.nauk; SOLOV'YEV, A.A., kand.ekon.nauk; STEPANOV, G.P., dots., kand.ekon.nauk; SHCHETININ, V.D., dots. kand. ekon. nauk; MOGILEVCHIK, A.Ye., red.; SHLENSKAYA, V.A., red.

[Modern international economic relations] Sovremennye mezhdunarodnye ekonomicheskie otnosheniia. Pod red. N.N.Liubimova. Moskva, Izd-vo "Mezhdunarodnye otnosheniia," 1964. 583 p.

(MIRA 17:5)

1. Moscow. Institut mezhdunarodnykh otnosheniy. 2. Predsedatel' Prezidiuma Vsesoyuznoy trgovoy palaty (for Nesterov).

LYUBIMOV, N.N., doktor ekon. nauk, prof.; FOKIN, D.F., kand.
ekon. nauk; SHERESHEVSKIY, M.G., doktor ekon. nauk, prof.;
PISKOPPEL, F.G., doktor ekon. nauk, prof.; DYUMULEN, I.I.,
kand. ekon. nauk; LOPATIN, G.S., doktor ekon. nauk, prof.;
MOGILEVCHIK, A.Ye., red.

[Foreign trade of the U.S.S.R., 1946-1963] Vneshniaia tor-
govlia SSSR (1946-1963 gg.). Pod red. D.F.Fokina. Moskva,
IMO, 1964. 189 p. (MIRA 17:6)

1. Moscow. Institut mezhdunarodnykh otnosheniy. 2. Kafedra
mezhdunarodnykh ekonomicheskikh otnosheniy Moskovskogo go-
sudarstvennogo instituta mezhdunarodnykh otnosheniy (for all
except Mogilevchik).

L 22915-66 EMT(1)/EMT(m)/EPF (n)-2/ETC(m)-6 JD/MW/GG
ACC NR: AP6006798 SOURCE CODE: UR/0386/66/003/001/0032/0035

AUTHORS: Yesel'son, B. N.; Dyumin, N. Ye.; Rudavskiy, E. Ya.;
Serbin, I. A.

ORG: Physicotechnical Institute of Low Temperatures, AN UkrSSR,
Khar'kov (Fiziko-tehnicheskii institut nizkikh temperatur AN UkrSSR)

TITLE: Experimental observation of fourth sound in He^3 - He^4 solutions

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma
v redaktsiyu. Prilozheniye, v. 3, no. 1, 1966, 32-35

TOPIC TAGS: sound propagation, liquid helium, quantum liquid,
superfluidity

ABSTRACT: The purpose of the investigation was to check experimen-
tally the existence of fourth sound, a special type of wave propa-
gating only through the superfluid component while the normal com-
ponent remains immobile, which was observed experimentally in liquid
 He^4 and whose existence in He^3 - He^4 solutions was recently considered
theoretically by D. G. Sanicidze and D. M. Chernikova (ZhETF v. 46,

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ACC NR: AP6006798

1123, 1964). The main part of the apparatus was a cylindrical resonator, 20 mm in diameter and 10 mm long, filled with a rouge filter consisting of particles $\sim 0.5 \mu$ in size compressed to 40 kg/cm^2 (filter porosity $\sim 60\%$). The sound transmitter and receiver were placed on opposite sides of the filter. The resonator was placed in a special vessel in which the investigated solution was condensed. The vessel itself was placed in a bath of He^4 , the temperature of which was lowered by pumping on helium vapor. Pulses with rise time $0.1 \mu\text{sec}$, repetition frequency 200 cps, duration $2 \mu\text{sec}$, and amplitude 400 V were fed from the blocking generator to the transmitter, which was located in the lower part of the receiver. The speed of the fourth sound could be determined from measured time interval necessary for the pulse to traverse the length of the filter. Multiple scattering was allowed for by means of an empirical formula. The experimental results were found to be in fully satisfactory agreement with theory of D. G. Sanikidze and D. M. Chernikova. Tentative measurements of the absorption coefficient indicate that it increases rapidly with temperature, making measurements near λ point difficult. Work is now continuing in a broader temperature concentration range,

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L 22915-66
ACC NR: AP6006798

with an aim at obtaining information on the behavior of He^3 and He^4 atoms in narrow channels. The authors thank D. G. Sanikidze for useful discussions conducted with the organization of the research. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 15Nov65/ ORIG REF: 003/ OTH REF: 008

Card

3/3 *See*

DIUMIN, A. G.

24040

DIUMIN, A. G. Povedeniye ptits i mlekopitayushchikh pri sil'nom zamorozke v Vostochnom Zakavkaz'ie. Izvestiya Akad. Nauk Azerbaydsh. SSR, 1949, No. 7, S. 34-38. - Resyume Na azerbaydzh. Yaz.

SO: Letopis, No. 32, 1949.

Behavior of birds & mammals under heavy frost in Eastern Transcaucasia.

Djundj, D. G.

DJUNDJ, D. G.

"Herdin [Larus argentatus] of the Southwest in Japan." Dand Biol Sci,
American State U Acad S. I. Miror, 10 Mar 54. Dissertation (Doklady Akademi
Nauk, 21 Feb 54)

NO: 55-101, 1 Aug 1954

DYUNIN, A.K.

Use of phase volumes in averaging the phase values in general differential equations describing two-phase flows (liquid - solid particles). Izv. SO AN SSSR no.6 Ser. tekhn. nauk no.2: 130-133 '64. (MIRA 17:10)

1. Sibirskiy nauchno-issledovatel'skiy institut energetiki, Novosibirsk.

DYUNIN, A. K.

124-58-9-10084

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 94 (USSR)

AUTHOR: Dyunin, A. K.

TITLE: On the Analytical Prediction of Surface-wind Velocities on the Lee Side of Snowbreak Barriers That Are Not Airtight (Ob analiticheskom opredelenii prizemnykh skorostey vetra za pronitsayemymi snegozaderzhivayushchimi konstruktsiyami)

PERIODICAL: Izv. vost. fil. AN SSSR, 1957, Nr 1, pp 95-108

ABSTRACT: The calculation of the mean wind velocities on the lee side of permeable screens (snowbreaks) is performed by means of the well-known solutions of the energy equation of the theory of free turbulence first proposed by Reichardt (Reichardt, H., Z. d. Angew. Math. & Mech., 1941, Vol 21) as expressed in the form

$$\frac{\partial v^2}{\partial (x^2)} = a^2 \left(\frac{\partial^2 v^2}{\partial y^2} + \frac{\partial^2 v^2}{\partial z^2} \right)$$

Card 1/2 where a is a dimensionless constant which must be determined

West-Siberian U.S.S.R. A.S. USSR

124-58-9-10084

On the Analytical Prediction of Surface-wind Velocities (cont.)

experimentally. In addition the author employs the empirical formula of Bogorodetskiy [Bogorodetskiy, A. A. Vetrovyye nagruzki na mosty (Wind Loads on Bridges). Dissertation for the degree of Candidate of the Technical Sciences, Moscow, 1946] for the drag of the barrier as well as some additional concepts. The ultimate curve of calculated velocities agrees closely with the empirical data.

N. A. Slëzkin

1. Wind--Velocity 2. Snow--Controls 3. Mathematics--Applications

Card 2/2

DYUNIN, A.K.

Sublimation of snow. Izv. Sib. otd. AN SSSR no.2:75-86 '58.
(MIRA 11:9)

1. Zapadno-Sibirskiy filial AN SSSR.
(Snow) (Sublimation (Physical sciences))

KOMAROV, Aleksey Aleksandrovich; DYUNIN, A.K., kand.tekhn.nauk, otv.red.;
MEN'SHIKOV, P.N., red.izd-va; POTOTSKAYA, N.M., tekhn.red.

[Increasing the effectiveness of snow protection devices on
Siberian railroads] Povyshenie effektivnosti snegozashchitnykh
sredstv na zheleznnykh dorogakh Sibiri. Novosibirsk, Novosi-
birskoe knizhnoe izd-vo, 1959. 105 p.

(MIRA 13:6)

(Siberia--Railroads--Snow protection and removal)

DYUNIN, A.K.

Semiempiric theory of the turbulent boundary layer. Izv.Sib.otd.
AN SSSR no.5:129-131 '59. (MIRA 12:10)

1. Transportno-energeticheskiy institut Sibirskogo otdeleniya
Akademii nauk SSSR.
(Boundary layer)

DYUNIN, A.K., kand.tekhn.nauk

Wind protection. Transp.stroi. 9 no.6:47-49 Je '59. (MIRA 12:11)
(Windbreaks, shelterbelts, etc.) (Railroad engineering)

DYUNIN, A.K.

Principles of the theory of blizzards. Izv.Sib.otd.AN SSSR
no.12:11-24 '59. (MIRA 13:5)

1. Transportno-energeticheskiy institut Sibirskogo otdeleniya
AN SSSR.
(Blizzards)

BYALOBZHESKIY, G.V., kand.tekhn.nauk; DYUNIN, A.K., kand.tekhn.nauk;
KOMAROV, A.A., kand.tekhn.nauk

Improving design of snow fences. Avt.dor. 22 no.12:17-18
D '59. (MIRA 13:4)

(Snow fences)

DYUNIN, A.K.; KOVTUN, D.G.; ANGELEYKO, V.I.; YEVREYSKOV, V.Ye., prof.,
otv.red.; DREMOVA, T.A., red.; MAZUROVA, A.F., tekhn.red.

[Theory of the planning and designing of railroad curves]
Voprosy teorii proektirovaniia zheleznodorozhnykh krivyykh.
Otv.red. V.E.Evreiskov. Novosibirsk, Izd-vo Sibirskogo otd-niia
AN SSSR, 1960. 173 p. (MIRA 13:12)
(Railroads--Curves and turnouts)

DYUNIN, A.K.

Experimental studies on the main features of snowstorms. Izv.Sib.
otd.AN SSSR no.1:17-32 '60. (MIRA 13:7)

1. Transportno-energeticheskiy institut Sibirskogo otdeleniya
AN SSSR.

(Blizzards)

BYALOBZHESKIY, Grigoriy Valerianovich, kand. tekhn. nauk; DYUNIN, Arkadiy
Konstantinovich, kand. tekhn. nauk; KOMAROV, Aleksey Aleksandrovich,
kand. tekhn. nauk; ZUBKOVA, M.S., red.; DONSKAYA, G.D., tekhn. red.

[Snow shields and fences] Snegozashchitnye shchity i zabory. Moskva,
Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog
RSFSR, 1961. 35 p. (MIRA 14:8)

(Snow fences)

KUNGURTSEV, Andrey Andreyevich; DYUNIN, A.K., kand. tekhn. nauk, retsenzent;
ALEKSEYEV, A.P., inzh., nauchnyy red.; ZUBKOVA, M.S., red. izd-va;
ZUBKOVA, M.Ye., red. izd-va; DONSKAYA, G.D., tekhn. red.

[Planning and design of snow protection measures for railroads] Pro-
ektirovanie snegozashchitnykh meropriyatii na dorogakh. Moskva,
Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog
RSFSR, 1961. 106 p. (MIRA 14:10)
(Railroads—Snow protection and removal)

DYUNIN, Arkadiy Konstantinovich; DREMOVA, T.A., red.; LOKSHINA, O.A.,
tekhn. red.

[Evaporation of snow] Isparenje snega. Novosibirsk, Izd-vo Sibir-
skogo otd-nia Akad. nauk SSSR, 1961. 117 p. (MIRA 14:10)
(Snow) (Evaporation)

DYUNIN, A.K.

Determining the discharge of solid matter in two-phase streams
with a solid granular phase. Izv. Sib. otd. AN SSSR no.11:33-39
'61. (MIRA 15:1)

1. Transportno-energeticheskiy institut Sibirskogo otdeleniya
AN SSSR, Novosibirsk.

(Hydraulics)

DYUNIN, A.K.

General differential equations of two-phase streams. Izv.
Sib. otd. AN SSSR no.10:43-48 '61. (MIRA 14:12)

1. Transportno-energeticheskiy institut Sibirskogo otdeleniya
AN SSSR, Novosibirsk.
(Hydrodynamics)
(Differential equations)

DYUNIN, A.K.; BORSHCHEVSKIY, Yu.T.

Mechanics of polyphase media. Izv.Sib.otd.AN SSSR no.1:30-36 '62.
(MIRA 15:3)

1. Transportno-energeticheskiy institut Sibirskogo otdeleniya
AN SSSR, Novosibirsk.

(Hydrodynamics)

BYALOBZHESKIY, G.V.; DYUNIN, A.K.; KOMAROV, A.A.; CHINDIN, V.V.

Maintenance of roads in the Far North in winter. Avt.dor. 25
no.1:20-22 Ja '62. (MIRA 15:2)
(Russia, Northern--Snow fences)

BYALOBZHESKIY, G.V.; DYUNIN, A.K.

"Design of snow protection equipment for highways" by
A.A. Kungurtsev. Reviewed by G.V. Bialobzheskii, A.K. Diunin.
Avt.dor. 25 no.4:29 Ap '62. (MIRA 15:5)
(Snow fences) (Kungurtsev, A.A.)

DYUNIN, Arkadiy Konstantinovich; SHALINA, L.V., red.; MAZUKOVA,
A.F., tekhn. red.

[Mechanics of snowstorms; problems in the theory of de-
signing means for snow control] Mekhanika metelei; vop-
rosy teorii proektirovaniia snegoreguliruiushchikh sredstv.
Novosibirsk, Izd-vo Sibirskogo otd-niia AN SSSR, 1963. 376 p.
(MIRA 17:3)

PEYEV, Khr. D.; DYUNIN, A.K.

Artificial regulation of the snow cover in mountain regions as
a means for regulating the water runoff. Izv. SO AN SSSR no.2
Ser. tekhn. nauk no.1:20-26 '63. (MIRA 16:8)

1. Soyuz nauchnykh rabotnikov Bolgarii, Sofiya i Transportno-
energeticheskiy institut Sibirskogo otdeleniya AN SSSR, Novosibirsk.
(Water resources development)

DYUNIN, A.K.; BORSHCHEVSKIY, Yu.T.; YAKOVLEV, N.A.; ZAYTSEVA,
I.P.; red.

[Principles of the mechanics of multiple-component flows]
Osnovy mekhaniki mnogokomponentnykh potokov. Novosibirsk,
Red.-izd.otdel Sibirskogo otd-nia AN SSSR, 1965. 68 p.
(MIRA 18:7)

ACCESSION NR: AP4031187

S/0056/64/046/004/1496/1497

AUTHORS: Dukarevich, Yu. V.; Dyumin, A. N.; Kaminker, D. M.

TITLE: Total neutron cross sections for lead isotopes

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1496-1497

TOPIC TAGS: lead, lead isotope, total neutron cross section, atomic structure, nucleus edge, filling of shell

ABSTRACT: Following an earlier measurement of the total cross sections of the interaction of 14.2 MeV neutrons with tin isotopes (ZhETF, 43, 1991, 1962) the total cross sections of the interaction on the lead isotopes Pb^{204} , Pb^{206} -- Pb^{208} , Bi^{209} and Tl were measured in order to obtain more information on the influence of the structure of the nucleus on the total cross sections. A plot of the total cross section against the atomic number indicates that the influence of the filling of the shell is manifest in the fact that the cross

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ACCESSION NR: AP4031187

section decreases systematically from Pb^{204} to Pb^{208} and increases on bismuth following the addition of one proton. The correlation between the total neutron cross sections and the published differential cross sections for the scattering of protons and α particles on the isotopes of lead and bismuth agree with this assumption, and the correlation between the neutron cross sections and the changes in the differential scattering cross section of the protons is the same as for tin. The decrease in the diffuseness of the edge of the nucleus on going from Pb^{204} to Pb^{208} , calculated on the basis of the optical model, is estimated at 0.5 Fermi units. Orig. art. has: 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 05Nov63

DATE ACQ: 07May64

ENCL: 01

Cord 2/4

ACCESSION NR: AP4031187

SUB CODE: NP

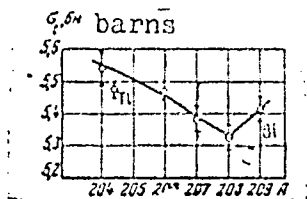
NR. REF SOV: 004

OTHER: 001

Card 3/4

ACCESSION NR: AP4031187

ENCLOSURE: 01



Dependence of the total cross section on the isotope mass number. The error shown is equal to the standard deviation.

Card 4/4

DYUNIN, V.(g.Ul'yanevsk)

What is hidden behind indexes of average output. Prem. keep. no. 3:
29 Mr '56. (MIRA 9:7)
(Ul'yanevsk--Cooperative societies)

DYUNINA, K. A.

24893 DYUNINA, K. A. Nekotorye Dannye O Nereis Succinea iz Malogo i Bol'shogo
Zalivov Im. Kirova (Kzyl-Agach). Ryb. Khz-vo, 1949, No.8, S.36-38

SO: Letopis', No. 33, 1949

DYUMINA, A.P., tsekhovoy terapevt

Analysis of the incidence of disease and ~~traumatism~~ with a temporary loss of working capacity at a glass combine.

Zdrav. Turk. 8 no.2:42-44 F164

(MIRA 17:4)

1. Iz Ashkhabadskoy polikliniki No.5 (glavnyy vrach F.K. Nazarova).

AL'BAM, M.A., kand.tekhn.nauk; DYUNINA, V.G., inzh.; PISARENKO, A.P., doktor
khimicheskikh nauk, prof.

Ways of reducing the shrinkage of light-weight microporous sole rubbers.
Izv.vys.ucheb.zav.; tekhn.log.prom. no.1:35-44 '63. (MIRA 16:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy khozhi (for Al'bam, Dyunina. Zapchnyy institut sovetskoy trgovli (for Pisarenko). Rekomendovana kafedroy khimii Zaochnogo instituta sovetskoy trgovli.
(Rubber)

AL'BAM, M.A.; PISARENKO, A.P.; LAZARYANTS, E.G.; Prinimali uchastiye:
ALADINSKAYA, I.P.; VOLKOVA, S.A.; DYUNINA, V.G.; GROMOVA, V.A.;
KOSMODEM'YANSKIY, L.V.; KOPYLOV, Ye.P.; ROKHMISTROVA, A.P.;
SHUSHKINA, Ye.N.

High-styrene rubber mixtures for the manufacture of microporous
non-shrinking rubbers. Kauch. i rez. 22 no.7:1-3 J1 '63.
(MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh
materialov i iskusstvennoy kozhi i Nauchno-issledovatel'skiy
institut monomerov dlya sinteticheskogo kauchuka.
(Rubber, Synthetic)

LITVINENKO, A.G., inzh.; DYUNINA, V.G., mladshiy nauchnyy sotrudnik; VASIL'YEVA,
N.A., mladshiy nauchnyy sotrudnik

Use of new softeners in rubber compounding. Nauch.-issl. trudy
VNIIPK no.13:20-27 '62. (MIRA 18:1)

KUROV, Viktor Dmitriyevich; DOLZHANSKIY, Yuriy Mikhaylovich; DYUNZE,
M.F., kand. tekhn. nauk, dotsent, retsenzent; MALYSHEV, M.V.,
inzh., red.; BOGOMOLOVA, M.F., red. izd-va; GARDUKHINA, L.A.,
tekhn. red.

[Fundamentals for designing powder-rocket missiles] Osnovy pro-
ektirovaniia porokhovykh raketnykh snaryadov. Moskva, Gos.
nauchno-tekhn.izd-vo Oborongiz, 1961. 293 p. (MIRA 15:1)
(Ballistic missiles) (Rockets (Aeronautics))

DYUPIKA, G.V.

Spores from Fennoscandian deposits of the Urals. Dokl. AN SSSR 137
no. 1:139-142 Mar-Apr '61. (MIRA 14:1)

1. Gorno-geologicheskii Institut Ural'skogo Filiala AN SSSR.
Predstavleno akademikom B.V. Malivkinom.
(Ural Mountains--Palynology)

DYUPLAN

Radiation leukemia in man and in an experiment. Med. rad. no.2:
36-42 '62. (MIRA 15:7)

(LEUKEMIA) (RADIATION SICKNESS)

MINARIK, F.; DYURCHEK, K.; MINARIK, A. (Bratislava)

Danger to medical personnel represented by the scattering of
rays in radiography. Gig.truda i prof.zab. 3 no.4:11-17
J1-Ag '59. (MIRA 12:11)

1. Institut gigiyeny truda i professional'nykh zabolevaniy.
(X RAYS--SCATTERING)

DYURCHEK, K. [Důrček, K.]; MINARIK, F.; STANKOVICHOVA, A. [Stankovičova, A.];
PETRASHOVA, M. [Petrášova, A.]; URICHEK, L. [Uriček, L.]

Doses of X irradiation to which patients and medical personnel are
exposed during cardiac catheterization. Med.rad. 4 no.10:66-70
0 '59. (MIRA 13:2)

1. Iz Instituta gigiyeny truda i professional'nykh zabolevaniy v
Bratislave (dir. - doktor med.nauk I. Kldchik).
(HEART CATHETERIZATION)
(RADIOGRAPHY)

1.2360 also 1573

22013
S/135/61/000/006/002/008
A006/A106

AUTHORS: Ishchenko, Yu. L., and Dyurgerov, N. G., Engineers

TITLE: Fusion of electrode and self-adjustment of arc in welding with
perio periodic short-circuiting of the arc-gap

PERIODICAL: Svarochnoye proizvodstvo, no 6, 1961, 9-12

TEXT: Welding with 1 - 3 mm electrode wire in CO₂, developed by the Institute of Electric Welding imeni Ye. O. Paton, is a process characterized by frequent short-circuiting of the arc gap. The advantages of this process are the use of low current values and a sharp reduction of splashing at optimum electric parameters of the welding circuit. Therefore the process is particularly promising for gas-electric welding. There is not, however, sufficient information available on the course of the process and on the self-adjustment of the arc. Experience has shown that an investigation of the effect of dynamical properties of the power supply on the nature of the process is of considerable importance. A necessary condition for the stability of the self-adjustment circuit during the absence of excitation is the equality of the feed and fusion rates of the electrodes $V_n = V_e$. During welding with periodic shortcircuiting of the arc gap,

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22013

S/135/61/000/006/002/008
A006/A106

Fusion of electrode and self-adjustment ...

the current and the electrode fusion rate are constantly changing, and become somewhat stable only at the end of cycle (Fig. 1). The dependence of the fusion rate of the electrode on current and time during the described process was studied by oscillogramming and simultaneous high-speed filming, performed under the supervision of Candidates of Technical Sciences V. T. Zolotykh and N. M. Budnik. The analytical dependence of the arc length and the frequency of short-circuiting on the time constant of the welding current and inductivity are given. (Figs. 2, 3, 4). It was found that the process with periodic short-circuiting of the arc gap takes place when the low voltage of the power source does not assure the passage through the arc of current sufficiently high to assure the fusion of the electrode at a rate equal to its feed. The fusion rate of the electrode is practically inertialess at any changes of the arc current. The fusion rate changes inertialess even at 20 amp/mm² current density. In the given case the mean density of current was 45 amp/mm² at 20 mm electrode throat and 2 mm diameter. Inductance L and time constant T of the welding circuit exert a considerable effect on the stability of the process and on splashing of the metal. The energy stored in the inductance during the short circuit assures intensified fusion of the electrode during the initial period of burning of the arc. At low inductance values its effect on the mean fusion rate during the energy efficiency increases. The value of the time

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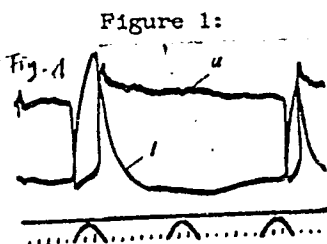
Fusion of electrode and self-adjustment ...

constant of the welding circuit affects the frequency of short circuits and the maximum length of the arc, predetermining the stability of the process. (Reference 2: Zolotikh, V. T.; Gufan, R. M.; Dyurgerov, N. G., and Ishchenko, Yu. L. "The effect of inductance in a d-c arc circuit on welding in carbon dioxide" "Svarochnoye proizvodstvo, no. 4, 1960"). It is stated that the process with intermittent short-circuiting of the arc gap can also be employed for submerged arc welding. There are 4 figures and 4 Soviet-Block references.

ASSOCIATION: Rostovskiy-na-Donu institut sel'khoz mashinostroyeniya (Rostov-on-Don Institute of Agricultural Machine Building)

Figure 1:

Oscillogram of current and arc voltage during welding in carbon dioxide: $U_d = 20$ v; $V_n = 1.7$ m/min.



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Figure 2:

Dependence of fusion rate and current on time

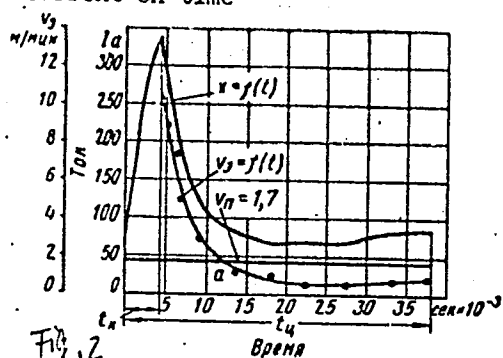


Fig. 2

Figure 4:

Oscillogram of current and arc voltage at higher inductance

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Figure 3:

Oscillogram of current and arc voltage at low values of time constant of the welding circuit

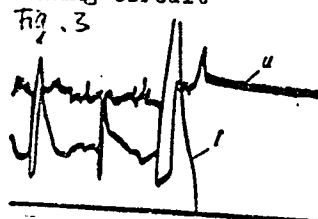
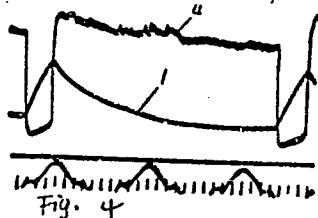


Figure 4:



S/135/62/000/001/002/007
A004/A101

AUTHORS: Dyurgerov, N.G., Ishchenko, Yu.L., Engineers

TITLE: On the stability of the CO₂-shielded short-arc welding process

PERIODICAL: Svarochnoye proizvodstvo, no. 1, 1962, 5 - 7

TEXT: The authors report on investigations of the basic conditions of a stable cycle of the short-arc welding process of low-carbon steel in CO₂ gas to establish the effects of the voltage and electrode feed on the course of the process. These investigations were carried out under the supervision of N.M. Budnik and V.T. Zolotikh, Candidates of Technical Sciences. It is pointed-out, that, for the complete characteristic of the static and dynamic properties of the welding circuit, it is necessary to know the idle-run voltage (U_{idle}), inductance of the welding circuit (L) and the active resistance of the welding circuit (R), determining the current variation curve. The short-arc welding process is stable if the following conditions are satisfied: 1) the arc voltage should have such a magnitude that the steady value of the arc current be smaller than the current necessary for the fusion of the electrode at a rate equal to its feed rate. 2) The presence of a definite inductance in the welding circuit is

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On the stability of the ...

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necessary. 3) The peak value of current I_m should be lower than the steady short-circuit current I_0 . The authors analyze the three-above-mentioned conditions, present a number of oscillograms and a formula obtained from the equality condition of the electrode feed and the fusion rate:

$$v_n t_c = \int_{t_{sh}}^{t_c} v_e(t) dt,$$

where v_n - electrode feed rate, v_e - electrode fusion rate, t_{sh} and t_c - the short-circuit time and cycle time respectively. The authors emphasize the necessity of paying attention to the narrow range of arc voltage variations corresponding to a definite feed rate in the range of which $v_e = v_n$. Tests showed that this range extends with an increase in the feed rate. An increase of the inductance to $3 \cdot 10^{-3}$ henry at $R = 0.04$ ohm and 2.0 mm electrode diameter results in a considerable improvement of the bead formation and reduces the amount of near-seam splatterings. If time constant T is increased, U_{idle} and R being constant, the maximum possible and minimum welding current are lowered and the range of possible welding conditions narrowed. Depending on the voltage and the electrode

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feed rate, the following three variants of the welding process exist: by short-circuiting the arc gap, continuous burning of the arc and periodic discontinuities of the arc. When short-arc welding is carried out with electrode wire 1.6, 2 and 3 mm in diameter, the most satisfactory results are obtained at relatively low welding conditions. There are 4 figures, 3 tables and 5 references: 4 Soviet bloc and 1 non-Soviet bloc.

ASSOCIATION: Rostovskiy-na-Donu institut sel'khoz mashinostroyeniya (Rostov-on-Don Institute of Agricultural Machine Building)

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DYURGEROV, N.G.; RYLOV, L.A.; ISHCHEENKO, Yu.L.; TKACHENKO, V.A.;
BARILOV, O.A.; ZHIDKOV, A.I.; GRIGOR'YEV, G.G.

Using GSR-9000 generators for submerged arc welding.

Mashinostroitel' no.9:33 S '62.

(MIRA 15:9)

DYURGEROV, N. G., inzh.

Stability of the arc welding process with self-regulation of
welding conditions. Svar. proizv. no.10:5-8 0 '62.
(MIRA 15:10)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashino-
stroyeniya.

(Electric welding) (Automatic control)

DYURGEROV, N.G.; ISHCHENKO, Yu.L.; GRIGOR'YEV, G.G.

A new efficient multiple-post welding system. Trakt. i sel'khoz mash.
31 [i.e.32] no.11:44-45 N '62. (MIRA 15:12)

1. Rostovskiy institut sel'skokhozyaystvennogo mashinostroyeniya
(for Dyurgerov, Ishchenko). 2. Rostovskiy zavod sel'skokhozyaystvennogo
mashinostroyeniya (for Grigor'yev).
(Agricultural machinery—Welding) (Electric welding)

BUDNIK, N.M.; DYUBGEROV, N.G.; ISHCENKO, Yu.L.

Possibility of hard facing in a cooling fluid without electrode vibration. Avtom. svar. 15 no.9:47-50 S '62. (MIRA 15:9)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

(Hard facing)

DYURGEROV, N.G., inzh.; ISHCHEKNO, Yu.L., inzh.; ZOLOTYKH, V.T., kand.
tekhn.nauk; SAPOV, P.M., inzh.; GRIGOR'YEV, G.G., inzh.; ZHIDKOV,
A.I., inzh.; BARILOV, O.A., inzh.

Multiple-operator automatic welding under flux without ballast
rheostats. Svar. proizv. no.4:40 Ap '63. (MIRA 16:5)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo
mashinostroyeniya (for Dyurgerov, Ishchenko). 2. Rostovskiy zavod
sel'skokhozyaystvennogo mashinostroyeniya (for Sapov, Barilov,
Grigor'yev, Zhidkov).

(Electric welding--Equipment and supplies)

ISHCHENKO, Yu.L., inzh.; DYURGEROV, N.G., inzh.

Mechanism of the periodical closing of the arc gap and the
stability of welding with a short arc. Svar. proizv. no.9:
10-13 S '63. (MIRA 16:10)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo
mashinostroyeniya.

BUDNIK, N.M., kand. tekhn. nauk; SHEVCHENKO, A.A., inzh.; DYURGEROV, N.G.;
SAPOV, P.M., inzh.; BARILOV, O.A.; NAKHIMOVICH, E.I.

Reconditioning shafts by build-up welding with a short arc.
Trakt. i sel'khoz mash. no.9:43 S '64.

(MIRA 17:11)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashino-
stroyeniya (for Dyurgerov). 2. Rostovskiy zavod sel'skokhozyayst-
vennogo mashinostroyeniya (for Nakhimovich).

L 32948-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI JD/HM
ACC NR: AP6015103 (A)

SOURCE CODE: UR/0135/66/000/005/0013/0015

AUTHOR: Dyurgerov, N. G. (Candidate of technical sciences); Lenivkin, V. A. (Engineer); Sagirov, Kh. N. (Engineer)

ORG: Rostov-na-Donu Institute of Agricultural Machine Building (Rostovskiy-na-Donu institut sel'khoz mashinostroyeniya)

TITLE: Calculation of the parameters of the current pulse in pulse arc welding with consumable electrodes

SOURCE: Svarochnoye proizvodstvo, no. 5, 1966, 13-15

TOPIC TAGS: arc welding, welding electrode, arc discharge, pulse welding

ABSTRACT: This article presents formulas for calculating the amplitude and duration of the current pulse obtained by the discharge of a capacitor through an arc space. A differential equation describing the discharge circuit is set up and a solution given for appropriate initial conditions. The authors' conclusions are as follows: 1) The optimal pulse is the one which provides a droplet separation in the descending portion of the curve or at the end of the pulse. 2) The amplitude of current pulse is determined by the parameters of the discharge circuit and the voltage drop of the capacitor. 3) The duration of current pulse is determined by the parameters of the discharge circuit. 4) The above data make it possible to select circuit parameters and charging

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UDC: 621.791.753.01

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ACC NR: AP6015103

capacitor voltage in order to attain the current pulse of the required amplitude and duration. Orig. art. has: 5 figures, 9 formulas.

SUB CODE: 13/ SUBN DATE: none

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S/190/60/002/008/002/017
B004/B054

AUTHORS: Igonin, L. A., Yeliseyev, Yu. A., Dyurgerov, O. A.,
Krasulina, N. A.

TITLE: Formation of Stable Free Radicals in the Process of Hardening and Thermal Destruction of Phenol Formaldehyde Resins

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 8, pp. 1167-1170

TEXT: The object of the present paper is the proof that in the hardening process of phenol formaldehyde resins not only dense-network polymers are formed but also thermal destruction processes are taking place. The shear stress of some resins as a function of time at rising temperature was determined by an I. F. Kanavets plastometer (Ref. 2). Samples used were: Novolac resin of the type K-18 (K-18) with 4% by weight of hexamethylene tetramine and 30% of dibutyl phthalate; poly-oxybenzylamine from p-cresol, and the same compound made of tricresol. Fig. 2 shows the shear stress as a function of temperature. At 150-170°C, poly-oxybenzylamine behaved like amorphous linear polymers with poorly marked network. At higher temperature

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